

IN THE CLAIMS

Please amend the claims as follows:

1. (Cancelled).

2. (Currently amended) A receiver for receiving modulated coded signals, said receiver comprising:

a phase-shift-keying demodulator for demodulating said signals; and

a differential detector having a decoder for decoding said signals,

wherein said differential detector further comprises a non-linear

compensator coupled to an output of said decoder ~~output~~ for compensating a decoder output signal,

wherein said non-linear compensator comprises a channel estimator for estimating at least one coefficient of at least one term of

said decoder output signal, and a remover for removing said at least one term from said decoder output signal.

3. (Previously Presented) The receiver according to claim 2, wherein said receiver is designed for a Bluetooth environment.

4. (Previously Presented) The receiver according to claim 3, wherein said decoder output signal is defined as $u_k = Ab_k + Bb_{k-1} + Cb_{k+1} + Db_k^* + Eb_{k-1}b_k + Fb_kb_{k+1} + Gb_{k-1}b_kb_{k+1} + H$, and said remover removes the H-term from the decoded output signal.

5. (Previously Presented) The receiver according to claim 4, wherein said remover comprises a combiner for receiving an H-coefficient from said channel estimator for combining said decoder output signal with said H-coefficient such that the H-term in the decoder output signal is removed.

6. (Previously Presented) The receiver according to claim 3, wherein said decoder output signal is defined as $u_k = Ab_k + Bb_{k-1} + Cb_{k+1} + Db_k^* + Eb_{k-1}b_k + Fb_kb_{k+1} + Gb_{k-1}b_kb_{k+1} + H$, and said remover removes the Bb_{k-1} -term from the decoder output signal.

7. (Previously Presented) The receiver according to claim 6, wherein said remover comprises a combiner for receiving a product of a B-coefficient originating from said channel estimator and a b_{k-1} -signal originating from an output of said non-linear compensator and delayed by T_s for combining said decoder output signal with said product such that said Bb_{k-1} -term is removed from the decoder output signal.

8. (Previously Presented) The receiver according to claim 7, wherein said remover comprises a slicer located between said combiner and said output of said non-linear compensator for slicing the compensated decoder output signal.

9. (Previously Presented) A non-linear compensator for use in a receiver for receiving modulated coded signals and comprising a phase-shift-keying demodulator for demodulating said signals, and a differential detector having a decoder for decoding said signals, wherein said differential detector comprises said non-linear compensator coupled to an output of said decoder for compensating a decoder output signal, wherein said non-linear compensator comprises a channel estimator for estimating at least one coefficient of at least one term of said decoder output signal and a remover for removing said at least one term from said decoder output signal.

10. (Previously Presented) A transceiver comprising a transmitter with a differential coder and a phase-shift-keying modulator for transmitting modulated coded signals, and a receiver for receiving modulated coded signals, said receiver comprising a phase-shift-keying demodulator for demodulating said signals, and a differential detector having a decoder for decoding said signals, wherein said differential detector comprises a non-linear compensator coupled to an output of said decoder for compensating a decoder output signal, wherein said non-linear compensator comprises a channel estimator for estimating at least one coefficient of at least one term of said decoder output signal and a remover for removing said at least one term from said decoder output signal.

11. (Previously Presented) A method for receiving modulated coded signals comprising the steps of:

receiving modulated coded signals;

demodulating said signals via phase-shift-keying

demodulation;

decoding said signals; and

non-linearly compensating the decoded signals,

wherein said non-linearly compensating step includes the sub-steps of:

estimating at least one coefficient of at least one term of the decoded signal; and

removing at least one term from the decoded signal corresponding to the estimated at least one coefficient.

12. (Previously Presented) A computer program stored on a computer readable medium that when executed by a processor configures the processor for receiving modulated coded signals, demodulating said signals via phase-shift-keying demodulation, decoding said signals, and non-linearly compensating decoded signals, wherein said non-linearly compensating function includes the sub-functions:

estimating at least one coefficient of at least one term of the decoded signal; and

removing at least one term from the decoded signal corresponding to the estimated at least one coefficient.

13. (Previously Presented) Receiver for receiving modulated coded signals and comprising a phase-shift-keying demodulator for demodulating said signals and comprising a differential detector for decoding said signals, wherein said differential detector comprises a non-linear compensator coupled to a decoder for compensating a decoder output signal, wherein said decoder output signal is defined as $u_k = Ab_k + Bb_{k-1} + Cb_{k+1} + Db_k^* + Eb_{k-1}b_k + Fb_kb_{k+1} + Gb_{k-1}b_kb_{k+1} + H$, with said remover removing the H-term.

14. (Previously Presented) Receiver for receiving modulated coded signals and comprising a phase-shift-keying demodulator for demodulating said signals and comprising a differential detector for decoding said signals, wherein said differential detector comprises a non-linear compensator coupled to a decoder for compensating a decoder output signal, wherein said decoder output signal is defined as $u_k = Ab_k + Bb_{k-1} + Cb_{k+1} + Db_k^* + Eb_{k-1}b_k + Fb_kb_{k+1} + Gb_{k-1}b_kb_{k+1} + H$, with said remover removing the Bb_{k-1} -term.